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SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for the
MISSOURI and ARKANSAS
DRAINAGE BASINS

March 1, 1942

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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation :
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

March 10, 1942

SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR MISSOURI AND ARKANSAS RIVERS

March 1, 1942

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service, of the U. S. Department of Agriculture, in cooperation with State departments, other Federal bureaus and local organizations. The snow measurements are made principally by field personnel of the following organizations: Forest Service, National Park Service, Bureau of Reclamation, U. S. Geological Survey, War Department and State Experiment Stations. This work is otherwise conducted cooperatively with the State Engineers of Wyoming and Colorado, and various municipalities, irrigation associations, power companies and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation		Departure from Normal		Departure from Normal	
		October 1 to February 28		February			
		Inches	Inches	Inches	Inches		
Missouri	East. Mont.	2.98	-0.10	0.66	+0.06		
Missouri	Cent. Mont.	3.85	+0.25	0.47	+0.01		
Missouri	North Wyo.	6.90	+0.15	1.10	-0.06		
North Platte	Wyoming	5.12	+0.56	0.84	-0.09		
South Platte	Colorado	6.37	+2.23	1.43	+0.68		
Arkansas	Colorado	5.45	+1.57	1.09	+0.34		

Precipitation over the watersheds of the Missouri and its tributaries in Montana, Wyoming and Colorado for the period from October 1 to March 1 was slightly above normal for the main Missouri, 1/2 inch above normal for the North Platte, and $2\frac{1}{2}$ inches above for the South Platte. February precipitation for these areas was about normal, except for the South Platte where there was an excess of $5/8$ inch. For the Arkansas River in Colorado, since October 1, the precipitation was $1\frac{1}{2}$ inches above normal and during February $1/3$ inch more than normal.

SUMMARY OF MARCH 1 SNOW SURVEYS AND COMPARISON OF DATA

WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses			Snow Density			1942 Water Content in percent of		
	Seven Year Avg.*			1941			1942 in Average			Seven year Avg.*			Seven Year Avg.*		
	In.	In.	In.	In.	In.	In.	In.	In.	In.	Percent	Percent	Percent	Percent	Percent	1941
MISSOURI RIVER															
Jefferson River	33.2	27.4	35.8	8.6	7.1	9.0	4			26	25		105		
Madison River	51.5	43.3	47.0	15.3	12.6	13.3	7			30	28		87		
Gallatin River	32.1	22.9	38.3	8.2	5.7	9.5	7			26	25		116		
Missouri River**	26.1	17.3	28.2	6.4	3.8	7.1	10			24	22		111		
Marias River	43.3	26.3	24.0	13.1	7.3	6.7	1			30	28		51		
Yellowstone River	26.2	20.8	27.1	6.0	4.2	6.0	.9			23	20		100		
Shoshone River	48.6	48.6	44.3	13.2	12.8	12.2	1			27	26		28		
Bighorn River	22.7	21.6	24.9	5.0	4.8	5.5	10			22	22		110		
North Platte River	49.4	41.3	48.2	14.6	11.0	13.3	10			30	27		92		
Sweetwater River	32.4	30.5	33.2	7.7	7.0	7.2	1			24	23		22		
Laramie River	29.2	21.6	29.7	7.8	5.3	7.2	8			27	25		24		
South Platte River***	18.3	17.4	25.0	4.0	3.3	5.6	3			22	19		22		
Crow Creek	17.4	12.0	19.4	3.9	2.7	3.9	1			22	22		20		
Poudre River	31.3	23.7	32.5	8.5	6.1	7.9	7			27	26		24		
Big Thompson River	41.6	37.0	43.9	11.2	8.4	10.5	2			27	23		24		
St. Vrain River	33.3	24.2	29.2	8.1	4.9	10.9	1			24	20		28		
Boulder Creek	24.4	21.0	28.8	7.2	5.1	8.1	2			30	24		112		
Clear Creek	37.8	31.2	36.3	9.1	6.7	7.7	1			24	21		85		
ARKANSAS RIVER															
	36.8	33.6	36.3	9.5	8.6	8.4	8			26	26		25		

*Some for shorter periods. **Headwaters of Missouri River

***Above Denver, Colo.

****Missouri River

ARKANSAS RIVER

WATER SUPPLY OUTLOOK

MONTANA. For the Missouri and its tributaries in Montana the water content of the snow is much better than it was a year ago and is in excess of the past seven year average. There was a substantial increase in the snow depth over this area during the month of February. At this time the outlook for the coming season's water supply is good. Soil moisture is reported to be better generally than last year at this time, stream flow is above normal and reservoir storage much in excess over that of a year ago.

WYOMING. The water content of the snow over the watershed of the Yellowstone in Wyoming and Montana is about $1\frac{1}{2}$ more than it was last year as shown by surveys on 9 snow courses; for the Big Horn in northern Wyoming it is about $1\frac{1}{7}$ more than a year ago as based on the surveys made on 10 snow courses on this drainage; for the North Platte conditions are better by $1\frac{1}{5}$; and the Laramie by $1\frac{1}{3}$. On the Shoshone the water content of the snow cover is approximately that of last year at this time, likewise for the Sweetwater. Over these various areas the soil moisture in the irrigated districts, is reported to be good to excellent, except for the Shoshone where the condition is only fair. The stream flow at this time from these several drainage areas is normal or better except for the North Park area on the North Platte where the runoff is retarded because of freezing temperatures. The reservoir storage is throughout the state is considerably in excess over that of last year. On the Wind River the present storage is three times as much as last year and for the principal reservoirs on the North Platte it is more than double. Wheatland reservoir on the Laramie has 40 percent more than last year. Jackson Lake now stores 386,000 acre feet of water which is slightly less than half its capacity. Present indications are favorable for an adequate water supply in Wyoming this season.

COLORADO. The outlook for the coming season's water supply for the South Platte and tributaries is promising at this time as shown by the recent snow surveys. On the Upper South Platte the water content is nearly $3\frac{1}{4}$ more than a year ago; Poudre $1\frac{1}{3}$ more; Big Thompson $1\frac{1}{4}$ more; St. Vrain more than twice as much; Boulder and Crow creeks $1\frac{1}{2}$ more and for Clear Creek $1\frac{1}{6}$ more. The general average condition over the whole drainage area is better than the 7-year mean. During February over the headwaters of the South Platte and its tributaries is good to excellent at this time. Much of this area was covered with snow during February. The stream flow is now normal or above and the reservoir filling is much above that of a year ago. The present snow cover in the mountain country indicates that most of these reservoirs will be filled to capacity before the start of the coming irrigation season.

For the Arkansas River valley in Colorado the outlook for next season is good at this time. The recent surveys show the water content of snow on the headwaters to be about the same as last year and $1\frac{1}{8}$ less than the 7-year average but because of the record filling of reservoirs, both mountain and plain, there is little doubt at this time as to an adequate water supply for the coming irrigation season. Soil moisture in the Arkansas Valley and the Purgatoire are reported to be good to excellent and stream flow is much above normal in these areas. The flow of the Arkansas River into Kansas so far this winter has been considerably more than in recent years. Because of good moisture in the soil little or no water is now being used for irrigation in the lower valley.

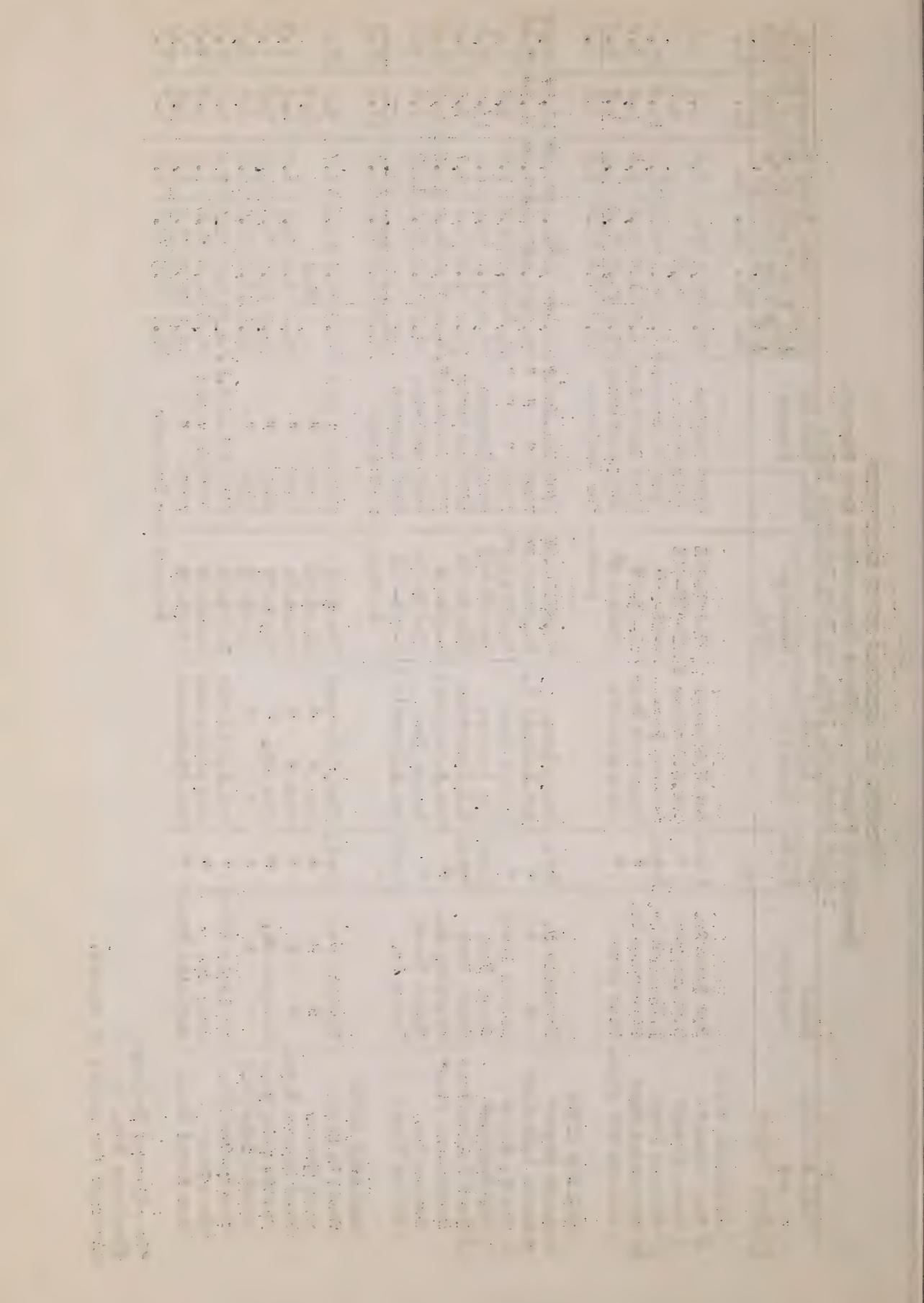
MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued March 10, 1942, at Fort Collins, Colo.

Main Drainage and Snow Course No.	Local Drainage	Location	Locality	Description	Mar. 1 Snow Cover Measurements					
					Av. Snow Depth		Av. Water Content		Elev.	
					Av. @ 1941	1942	Av. @	1941	In.	In.
JEFFERSON RIVER										
6 Camp Creek*	Red Rock Cr.	Idaho	6mi. N. Spencer	21-13N-36E	6800	Targhee	32.2	30.0	8.4	8.0
7 Moose Creek*	N.Fk. Big Hole	"	3mi. S. Gibbons P.	27-27N-21E	6200	Salmon	35.0	44.1	16.2	8.6
10 Gibbons Pass	N.Fk. Big Hole	Mont.	Gibbons Pass	4-2S-19W	7100	Bitterroot	56.0	11.4	22.6	13.8
30 Pipestone Pass	Pipestone Cr.	"	Pipestone Pass	11-11N-7W	7200	Deer Lodge	16.9	24.0	3.4	2.0
Elkhorn Hot Spgs.	Wise River	"	8mi. N. Polaris	15-4S-12W	8450	Beaverhead	27.8	31.0	6.5	4.7
MADISON RIVER				Average for Drainage	33.2	27.4	35.8	8.6	7.1	9.0
2 Aster Creek*	Firehole R.	Wyo.	Lewis Lake	44-3N110-6W	7700	Yel. Nat. P.	64.4	57.0	20.9#	17.5#
8 Lewis L. Divide*	"	"	3mi. S. Lewis L.	44-2N110-7W	7900	"	89.9	77.0	28.9#	26.8#
11 Norris Basin	Gibbon River	Idaho	Norris Basin	44-3N110-7W	7500	"	29.4	26.0	28.4	25.4#
3 Big Springs*	South Fork	Idaho	Big Springs	34-14N-44E	6500	Targhee	55.6	47.2	25.0	5.4
16 West Yellowstone	South Fork	Mont.	W. Yellowstone	34-13S-5E	6700	Gallatin	35.2	27.8	34.0	13.0
Twenty-one Mile*	Greyling Cr.	"	8mi. S. Gallatin	1-11S-5E	7150	Yel. Nat. P.	44.8	35.0	12.8	7.5
Hebgen Dam	Cabin Creek	"	Hebgen Dam	22-11S-3E	6550	Gallatin	41.0	33.2	32.0	9.5
Valley View	Denny Cr.	Idaho	5mi. E. Henry's L	7-15N-44E	6500	Targhee	--	--	--	8.2
GALLATIN RIVER			Average for Drainage	51.5	43.3	47.0	15.3	12.6	12.6	13.3
Devil's Slide	Zyalite Cr.	Mont.	20mi. S. Bozeman	14-5S-6E	8100	Gallatin	49.9	36.1	13.7	9.2
Hood Meadow	"	"	14mi. "	22-4S-6E	6600	"	21.1	18.6	33.2	4.7
Hood Meadow Extn.	"	"	14mi. "	22-4S-6E	6500	"	26.2	19.0	32.0	4.3
Mystic Lake No.1	Bozeman Cr.	"	12mi. SE.	31-3S-7E	6600	"	24.0	16.0	29.0	5.0
Mystic Lake No.2	"	"	"	31-3S-7E	6600	"	22.6	16.0	5.2	3.5
Twenty-One Mile	Gallatin River	"	8mi. S. Gallatin	1-11S-5E	7150	Yel. Nat. P.	44.8	35.0	12.8	9.5
Ross Peak	Ross Cr.	"	12mi. N. Bozeman	10-1N-6E	7000	Gallatin	28.9	16.0	37.0	7.2
New World Trail	Gallatin River	"	8mi. SE. Bozeman	13-3S-6E	7000	"	28.5	20.0	37.0	6.4
			Average for Drainage	32.1	22.9	33.3	8.2	5.7	5.7	9.5

*On adjacent drainage

#Readings Feb. 15

©Average for period of record.



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Main Drainage and Snow Course No.	Local Drainage	Location	State	Locality	Descrip- tion	Elev.	National Forest	Mar. 1 Snow Cover Measurements					
								Av. Depth 1941	Av. Depth 1942	Av. @ 1941	Av. @ 1942		
MISSOURI RIVER													
6 Chessman Res.	Tennile	Mont.	11mi. SW. Helena	2-8N-6W		6200	Helena	15.4	6.6	17.0	3.9	4.2	
11 Goat Mountain	South Fork	"	26mi. W. Gilman	47-5M112-9W		7000	Lewis & Clark	26.6	13.6	19.0	6.3	3.9	
76 Stemple Pass	Canyon Creek	"	Stemple Pass	16-13N-7W		6900	Helena	31.0	20.8	27.0	7.2	5.6	
41 Tennile Cr. Lower	Tennile	"	17mi. SW. Helena	13-8N-6W		6250	"	22.0	13.6	27.0	5.0	6.9	
42 Tennile Cr. Middle	"	"	"	13-8N-6W		6800	"	31.1	20.2	35.0	7.3	3.9	
43 Tennile Cr. Upper	"	"	"	13-8N-5W		8000	"	35.9	24.6	42.0	9.3	11.9	
Grasshopper	Grasshopper Cr.	"	6mi. S.W.S. Spgs.	19-9N-8E		7000	Lewis & Clark	17.2	14.0	22.2	3.5	4.8	
King's Hill	Belt Creek	"	21mi. N.W.S. Spgs.	35-13N-7E		7950	"	40.6	29.4	40.0	9.7	6.4	
Orville Harris	Musselshell R.	"	12mi. E.W.S. Spgs.	31-10N-9E		6500	"	16.2	13.0	19.3	3.4	2.5	
Half Moon	Judith River	"	19mi. S. Lewiston	22-12N-18E		6000	"	25.1	17.0	33.2	7.9	5.6	
Crystal Lake	Flatwillow Cr.	"	18mi. SE.	24-12N-17E		5500	"	"	"	48.5	6.4	13.5	
MARIAS RIVER								26.1	17.3	28.2	6.4	7.1	
7 Desert Mountain*	Gutbank Cr.	Mont.	4mi. S. Belton	24-31 N-12W		5500	Flathead				8.4		
20 Marias Pass	Two Medicine	"	Summit	48-3M113-4W		5250	Glacier NP.	43.3	29.3	24.0	13.1	7.3	
YELLOWSTONE RIVER								Average for Drainage					
14 Dome Lake	Goose Creek	Wyo.	Dome Lake	11-53N-87W		8800	Big Horn	18.4	17.8	20.6	4.8	4.7	
40 Lupine Creek	Lupine Creek	"	11mi. SE. Gardiner	44-9M110-6W		7300	Yellow Nat. P.	27.1	22.5	27.4	6.1	4.6	
41 Blacktail Deer Cr.	Blk. Tail Deer Cr.	"	11mi. " "	44-9M110-6W		7500	"	31.1	28.9	29.4	7.3	5.8	
Camp Senia	W.Br. Rock Cr.	Mont.	10mi. W. Red Ldg.	2-8S-18E		7870	Custer	17.0	10.0	25.9	3.5	1.7	
3 Canyon	Tower Creek	Wyo.	8mi. N. Canyon Jct.	44-7T110-5W		7750	Yellow Nat. P.	35.3	30.0	32.2	7.9	5.5	
Cooke City	Soda Bottle Cr.	Mont.	Cooke City	25-9S-14E		7400	Absaroka	23.8	16.0	19.1	5.8	3.4	
Crevice Mtn. #1	Yellowstone	"	6mi. E. Gardiner	26-9S-9E		8400	Yellow Nat. P.	29.9	23.0	28.0	6.6	5.2	
Crevice Mtn. #2	"	"	7mi. " "	26-9S-9E		8300	"	28.9	20.0	27.0	6.6	5.1	
7 Lake Camp	Porcupine Cr.	Wyo.	3mi. NE. Fishing Br.	44-6M110-4W		7350	"	"	34.2	31.0	30.2	7.5	6.7
Porcupine Cr.	Boulder Cr.	Mont.	12mi. NE. Wilsall	10-4N-10E		6500	Absaroka	16.7	10.0	21.8	3.9	4.8	
Hell's Canyon	"	"	26mi. SE. Livingston	23-5S-12E		6000	"	11.2	6.0	16.5	2.4	3.2	
Independence	"	"	26mi. NE. Gardner	22-7S-12E		8000	"	40.8	24.0	47.6	9.0	11.5	
MILK RIVER								Average for Drainage					
Rocky Boy	Milk River	Mont.	Bear Paw Mt.	15-28N-16E		2600	Off Forest				15.8	12.1	
								--			19.5	3.4	

*Adjacent Drainage

© Average for period of record

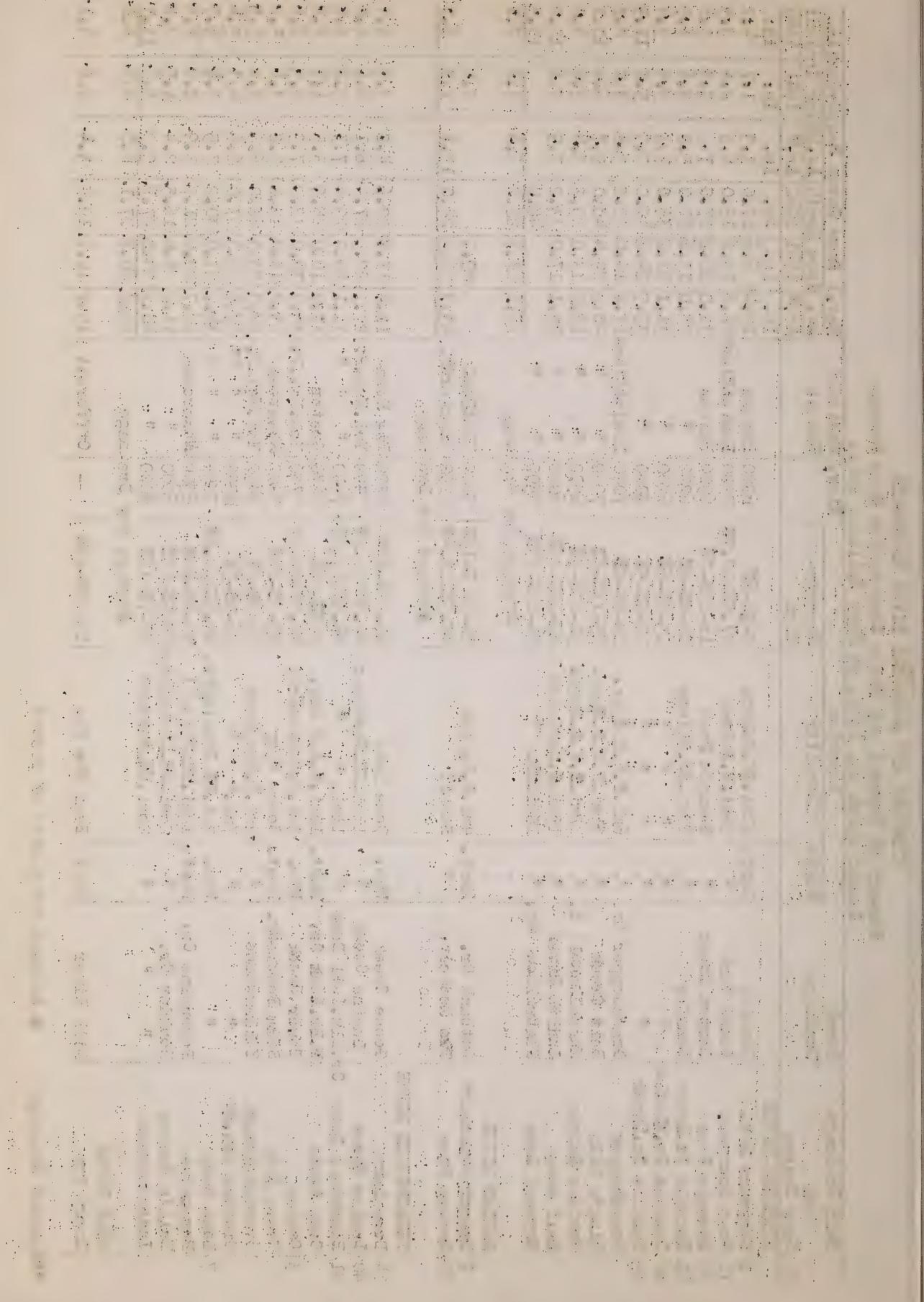
Mont. Bear Paw Mt.

15-28N-16E -- Off Forest

15.8 12.1 19.5

3.4

2.8

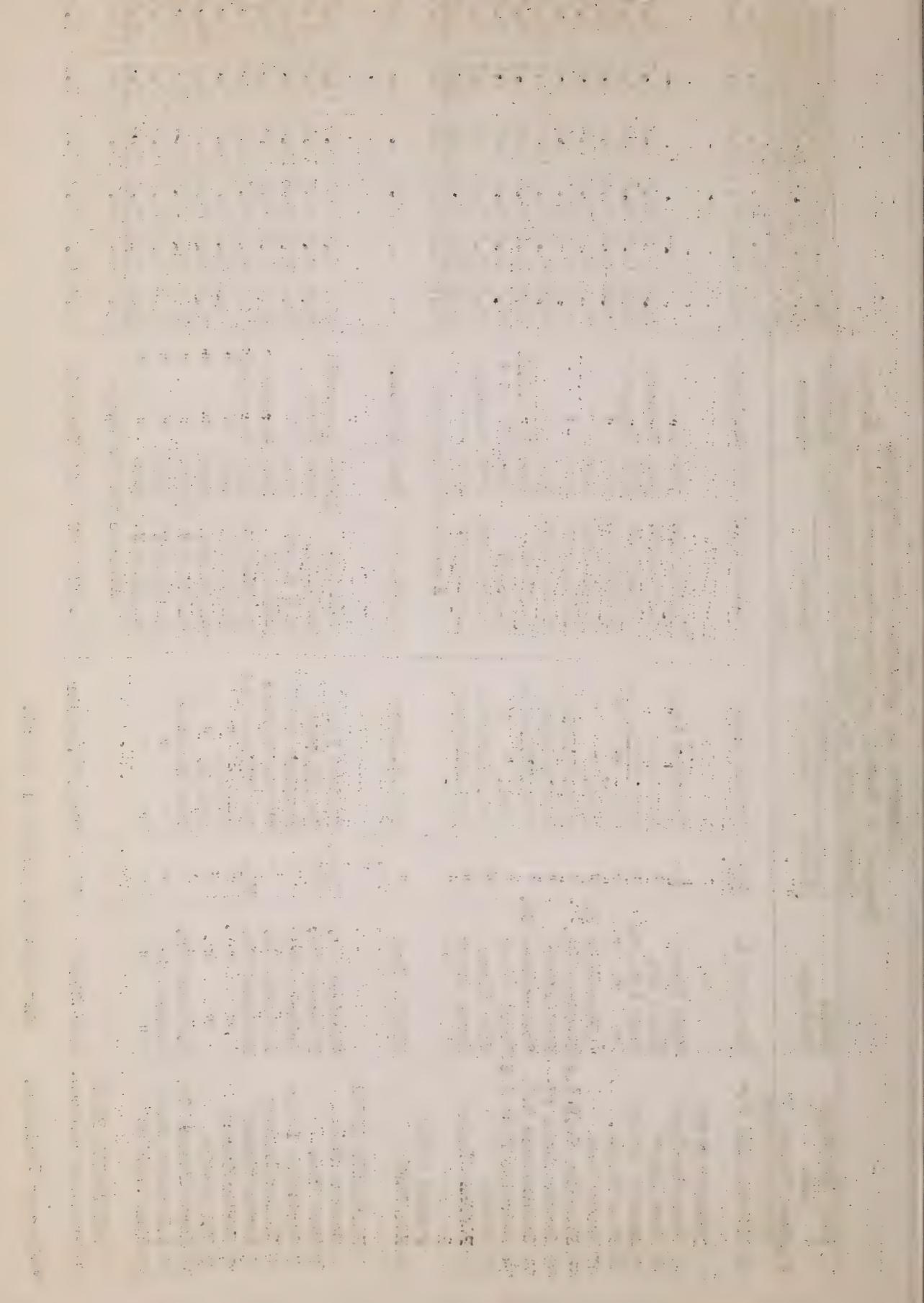


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			State	Locality	Descrip- tion	Elev.			National Forest			Av. Water Content
						Av. @ 1941	1942	In.	Av. @ 1941	1942	In.	Av. @ 1941
SHOSHONE RIVER	Brooks Lake #3*	Shoshone R.	Wyo.	Brooks Lake	23-44N-110W	9200	Washakie	48.6	48.6	44.3	13.2	12.8
BIGHORN RIVER	Wind River	Wyo.	Togwotee Pass	29-44N-110W	9600	Teton	18.4	17.8	20.6	4.8	3.7	4.7
12 Dome Lake*	Shell Cr.	"	Dome Lake	11-53N-87W	8800	Bighorn	14.4	12.5	20.9	2.2	2.1	3.3
14 Sawmill Glade	Popo Agie R.	"	13mi. SW. Lander	3-31N-101W	8500	Washakie	22.0	19.4	28.8	4.2	3.9	5.8
45 Blue Ridge	"	"	15mi. " "	23-31N-101W	9500	"	28.5	28.5	31.5	6.4	6.8	6.4
46 South Pass	L. Popo Agie R.	"	12mi. " "	13-30N-101W	9000	"	19.2	21.7	17.6	3.6	4.8	3.2
47 Sheridan Cr. R.S. #2	Sheridan Cr.	"	16mi. NW. Dubois	3-42N-109W	7500	"	48.6	48.6	44.3	12.8	12.8	12.2
49 Brooks Lake #3	Wind River	"	Brooks Lake	23-44N-110W	9200	"	16.5	13.6	19.4	3.5	2.3	4.7
50 St. Lawrence R.S.	St. Lawrence Cr.	"	27mi. NW. Lander	26-1N-4W	9000	Sinks. I.R.	16.5	13.5	14.6	4.2	2.6	5.8
51 Mosquito Park R.S.	Trout Creek	"	18mi. " "	23-2S-3W	9500	" "	20.5	14.6	26.4	4.2	2.6	5.6
52 DuNoir	Wind River	"	9mi. NW. Dubois	27-42N-103W	8750	Washakie	25.1	25.5	24.7	5.6	5.7	5.6
53 E-Cross Ranch	Horse Creek	"	12mi. N. Dubois	143N-107W	8000	"	14.2	13.5	14.8	2.8	2.8	2.9
54 POWDER RIVER	Middle Fork	"	Average for Drainage	18-43N-85W	7500	Off Forest	22.7	21.6	24.9	5.0	4.8	5.5
30 Red Fork		"	23mi. W. Kaycee				—	—	17.9	—	—	3.2
NO. PLATTE RIVER												
1 Cameron Pass	Michigan Cr.	Colo.	Cameron Pass	2-6N-76W	10300	Roosevelt	48.1	39.8	49.6	15.4	13.6	13.6
7 Park View	Illinois Cr.	"	7mi. SE. Rand	24-5N-78W	9200	Routt	31.0	21.9	32.3	7.8	5.5	7.4
8 Columbine Lodge	Grizzly Cr.	"	Ebt. Ears Pass	21-5 N-82W	9300	"	62.4	52.2	59.6	18.2	12.3	16.3
62 Willow Cr. Pass	Illinois Cr.	"	Willow Cr. Pass	1-4N-78W	9500	Arapaho	36.6	28.6	40.1	9.4	7.1	10.0
7 Bottle Creek	Encampmt Cr.	Wyo.	7mi. SW. Encampmt	24-14N-85W	8200	Medicine Bow	37.4	25.3	36.7	10.2	7.0	9.1
8 Webber Spring	"	"	10mi. W.	27-14N-85W	9000	"	45.2	36.2	45.2	12.6	9.3	12.7
9 Old Battle	"	"	12mi. W. "	29-14N-85W	9800	"	76.4	64.9	75.4	24.6	19.0	24.8
37 North French Cr.	N. French Cr.	"	Cent. / Saratoga	27-16N-80W	10200	"	69.7	62.4	59.3	23.4	17.1	18.3
38 N. Barrett Cr. #2	Barrett Cr.	"	" "	30-16N-80W	9400	"	52.4	47.9	47.7	15.4	12.2	12.3
39 Ryan Park #2	"	"	34-16N-81W	8400	"	"	34.4	33.5	35.7	9.4	7.3	8.3
SWEETWATER RIVER	Grannier Meadows	Rock Creek	Average for Drainage	19-30N-100W	9000	Washakie	49.4	41.3	48.2	14.6	11.0	13.3
29					32.4	30.5	33.2	7.7	7.0	7.2		

*Adjacent Drainage.

@Average for period of record.



MISSOURI AND ARKANSAS RIVER WATERSHEDS

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Main Drainage and Snow Course No.	Local Drainage	State	Locality	Description	Elev.	National Forest		Mar. 1 Snow Av. Depth	Cover Av. @ 1942	Water Content In. @ 1942
						Av. 1941	Av. 1942			
LARAMIE RIVER										
3 Brooklin Lake	Nash Fork	Wyo.	7 mi. NW. Centennial	11-16N-79W	10200	Medicine Bow	47.5	39.1	46.4	11.4
11 Fox Park	Fox Creek	"	Fox Park	21-13N-78W	9200	"	27.2	22.9	29.5	13.3
34 Pole Mountain #2*	Soldier Cr.	"	10 mi. SE. Laramie	35-15N-72W	8700	"	17.4	12.0	19.4	5.7
35 Libby Lodge #2	Libby Creek	"	3 mi. NW. Centennial	29-16N-78W	8700	"	23.9	18.0	25.5	7.0
36 Hairpin Turn #2	Nash Fork	"	5 mi. NW. Centennial	24-16N-79W	9500	"	25.0	18.8	25.6	3.9
4 W.Port.G-P.Tunnel	Laramie R.	Colo.	4 mi. N. Chambers L	7-2N-75W	8600	Roosevelt	24.9	16.3	24.6	5.8
50 Deadman Hill*	Deadman Cr.	"	26-10N-75W	10200	"		36.7	25.1	36.3	6.0
71 Deadman Hill#2*	Deadman Cr.	"	6-9N-74W	10200	"		30.8	20.8	30.4	5.0
88 Roach	LaGarde Cr.	"	6-9N-77W	9800	"		38.2	25.6	30.0	9.0
SOUTH PLATTE RIVER				Average for Drainage	29.2		21.6	29.7	7.6	13.5
14 Hoosier Pass	S.Platte R.	Colo.	Hoosier Pass	13-8S-78W	11400	Pike	31.9	25.5	37.2	5.0
15 Fairplay	"	"	Fairplay	33-9S-77W	10000	"	4.4	6.4	9.1	9.2
83 Jefferson Cr.#2	Jefferson Cr.	"	5 mi. NW. Jefferson	14-7S-76W	10100	"	18.7	20.2	28.6	1.2
CROW CREEK				Average for Drainage	18.3		17.4	25.0	4.1	6.4
34 Pole Mountain #2	Crow Creek	Wyo.	10 mi. SE. Laramie	35-15N-72W	8700	Medicine Bow	17.4	12.0	19.4	5.6
POUDRE RIVER										5.6
1 Cameron Pass	Joe Wright Cr.	Colo.	Cameron Pass	2-6N-76W	10300	Roosevelt	48.1	39.8	49.6	13.6
2 Chambers Lake	Poudre River	"	Chambers Lake	6-7N-75W	9000	"	19.3	12.5	23.5	4.9
3 Big South	"	"	2 mi. E. Chambers L	33-2N-75W	8600	"	8.0	4.2	11.0	1.4
50 Deadman Hill	N.Poudre R.	"	10 mi. W.R. Feather	26-10N-75W	10200	"	36.7	25.1	36.3	1.3
65 Lake Irene*	Big S. Poudre	"	1 mi. SW. Milner P.	8-5N-75W	10600	By. Mtn. N.P.	54.7	50.5	54.2	9.0
68 Hour Glass Lake	E.S.Poudre	"	2 mi. N.W. Pingree P.	18-7N-73W	9500	Roosevelt	21.5	11.7	22.7	13.4
71 Deadman Hill #2	N.Poudre R.	"	6-9N-74W	10200	"		30.8	20.8	30.4	5.6
BIG THOMPSON			Average for Drainage	31.3			23.7	32.5	7.6	7.4
65 Lake Irene*	Big Thompson R.	Colo.	1 mi. SW. Milner P.	8-5N-75W	10600	By. Mtn. N.P.	54.7	50.5	54.2	11.4
95 Hidden Valley #2	Hidden Valley Cr."	"	9 mi. W. Estes P.	23-5N-74W	9550	"	28.6	23.6	33.6	5.5
			Average for Drainage	41.6			37.0	43.9	11.2	10.5

*Adjacent Drainage

© Average for period of record.

Year	Population	Area (sq km)	Density (per sq km)
1950	1,000,000	100	10,000
1960	1,500,000	120	12,500
1970	2,000,000	140	14,286
1980	2,500,000	160	15,625
1990	3,000,000	180	16,667
2000	3,500,000	200	17,500
2010	4,000,000	220	18,182
2020	4,500,000	240	18,750
2030	5,000,000	260	19,231
2040	5,500,000	280	19,643
2050	6,000,000	300	20,000
2060	6,500,000	320	20,312
2070	7,000,000	340	20,588
2080	7,500,000	360	20,833
2090	8,000,000	380	21,053
2100	8,500,000	400	21,250

MISSOURI AND ARKANSAS RIVER WATERSHEDS

Summary of Federal and State Cooperative Snow Surveys
Issued March 10, 1942, at Fort Collins, Colorado

Main Drainage and Snow Course	No.	Local Drainage	State	Locality	Location	Descrip- tion	Elev. Forest	National Forest	Mar. 1. Snow Cover Measurements					
									Av. Snow Depth		Av. Water Content		Av. @ 1941	Av. @ 1942
									In.	In.	In.	In.		
ST. VRAIN RIVER	41	Wild Basin	N.St. Vrain R. Colo.	5mi. W. Allen's P.	24-3N-74W	10000	Ry. Mtn. N.P.	33.3	24.2	39.2	8.1	4.9	10.9	
BOULDER CREEK	5	E. Port. Moffat T.	S. Boulder Cr. Colo.	East Portal	2-2S-74W	9400	Roosevelt	10.3	11.2	9.1	2.6	2.8	2.4	
	60	University Camp #2	N. Boulder Cr. "	5mi. SW. Ward	28-1N-73W	10300	"	38.6	30.9	48.4	11.8	7.4	13.8	
CLEAR CREEK	61	Loveland Pass #2	Clear Creek Colo.	10mi. W. Georgetown	27-4S-76W	10100	Arapaho	24.7	21.0	28.8	7.2	5.1	8.1	
	97	Grizzly Peak *	" "	1mi. W. Loveland P.	2-5S-76W	11250	"	37.8	31.2	36.3	9.1	6.7	7.7	
ARKANSAS RIVER	19	Tennessee Pass	Tennessee Cr. Colo.	21-8S-80W	10200	Cochetopa	33.1	26.2	37.2	7.8	5.6	8.2		
	21	Twin Lakes Tun.	Lake Creek "	22-11S-82W	10500	"	30.9	25.0	33.6	8.4	6.4	7.8		
	42	Marshall Creek *	Poncha Creek "	24-48N-6E	10800	"	41.9	38.1	39.9	10.3	9.5	9.2		
	43	Poncha Creek	" "	19-48N-7E	10500	"	31.1	35.0	32.4	8.3	10.2	8.4		
	72	Whiskey Creek #2	Whiskey Cr. " "	37-2N-105.2W	10300	Maxwell Grant	25.2	28.0	16.7	6.9	8.3	3.8		
	74	LaVeta Pass #2*	Ouachara Cr. "	22-28S-70W	9300	San Cristo Gr	31.6	30.3	24.3	7.1	8.0	3.7		
	78	Four Mile Park #2	Lake Creek "	23-11S-81W	9700	Cochetopa	—	13.9	—	—	3.5	—	—	
	79	Fremont Pass #2	E. Fork Ark. R. "	2-8S-79W	11400	Arapaho	48.9	39.0	50.7	14.1	7.8	12.9		
	92	Monarch Pass	S. Fork Ark. R. "	16-49N-6E	10500	Cochetopa	51.4	47.4	55.5	13.4	13.1	13.6		
						Average for Drainage	36.8	33.6	36.3	9.5	8.6	8.4		

*Adjacent Drainage

Average for period of record

